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**Synopsis of the APIONINAE of North America.**

BY JOHN B. SMITH.

The subfamily Apioninae according to the new classification forms a part of the family Curculionidae, and is defined as follows:—"Mentum narrow, linear, much longer than wide, inserted upon a short gular peduncle of equal width; slightly channelled at tip, reaching nearly to the mandibles, and quite concealing the ligula and palpi which are very small, maxillæ entirely filling the buccal fissures with a large corneous mass: there is but one broad lobe, densely fringed with hairs; palpi not visible; on dissection they appear very short, with not more than three joints. Mandibles three toothed, the middle tooth curved, acute, forming the apex; near the tip on the anterior edge is a small tooth; the third tooth is on the inner side and very large. Antennæ inserted in foveæ, at the sides of the beak, eleven jointed, straight, first joint longer than the succeeding ones; 9-11 broader and longer, forming an oval pubescent club which is pointed at the end.

Head prominent, not deflexed, not narrowed behind the eyes, which are rounded, convex and not granulate; beak long and slender, sometimes stouter toward the base; with antennal grooves.

Prothorax truncate in front, without postocular lobes, subsinuate behind, gradually narrowed from base to tip; prosternum very short, coxal cavities rounded, confluent, closed behind; prosternal sutures distinct.

Mesosternum small narrow between the coxæ; side pieces diagonally divided; epimera triangular pointed at the inner side, and not attaining the coxal cavities. Metasternum a little longer than the first ventral segment, side pieces narrower.

Elytra ample sometimes almost ventricose, deeply striate, entirely covering the pygidium; without epipleura; fold on the inner surface paralld with the side margin, diverging gradually from it toward the tip. Wings large.

Abdomen with the first and second ventral segments large, closely connate, with a fine straight suture; third and fourth segments very short, sutures straight, fifth longer, flat, rounded at the tip; dorsal segments membranous, pygidium small; anterior coxæ conical, prominent, contiguous; middle coxæ round, slightly separated.

Legs rather long and stout, thighs somewhat clavate; hind trochanter long; tibiae truncate at tip, without spurs or spines; tarsi dilated, first joint scarcely longer, third bilobed, claws divergent, appendiculate, toothed or simple.

The species have a peculiar appearance and are easily recognized by their small size, usually black color, and straight antennae. They are common everywhere, but are not often collected, and are entirely unnamed in collections generally. A large material had accumulated in the collections of Drs. LeConte and Horn, of Philadelphia, which they kindly allowed me to use; Prof. Riley and Mr. Ulke, of Washington, have sent me their material, and the large collections of Texan and Florida species made by Mr. Schwarz, I owe to the kindness of that gentleman; my own collection contained quite a number of species, and while there are undoubtedly many more species to be discovered, the species named in this paper will probably cover anything now in collections.

The larvæ have not been described, but they have been found in seeds of *Tephrosia virginica* (*seguipes*, *fide* Riley) *Baptisia tinctoria* (*rostrum*, *fide* Harris Inj. Ins. 67,) and *Robinia pseudacacia* (*nigrum fide* Harris *loc cit* et labels on insects coll. LeConte and Horn). Mr. Riley informs me that he has found *fraternum* on *Phaseolus pauciflora*, and that the larva of *griseum* probably bores in potato vines; *artemisiae* has been bred from a gall on *Artemisia tridentata*, and *Podapion gallicola* is described by Mr. Riley as a true gall maker on *Pinus inops*. It is probable that a majority of the species will prove seed feeders, while not a few—especially those of the first groups may live in the stems or twigs of plants.

The species are divided in the synopsis by the form of the thorax, the shape of the elytra, of the rostrum and of the femora. The tarsal claws seemed at first to offer the most natural division, but while a large part of the species have the claws dentate in both sexes, and a few seem to have them simple in both sexes, there are some species in which the ♂s have the claws toothed while the ♀s have them simple. Of some species I did not have both sexes, so that I could not safely use this character. Groups I, II and *Podapion* have the claws simple in one sex at least, and they separate very readily by superficial characteristics; Groups III, IV and V usually have the claws dentate in both sexes. In Group I, I have used the dilation of the rostrum to separate the species; in the other groups this character loses value and cannot be relied upon. Group III is separated by the form of the rostrum which is usually short, strong and punctured and tapers to the tip; in some

species the ♀ rostrum is longer and not so distinctly attenuate, but it is not dilated at tip as are the species of the other sections. The antennae did not seem to me to afford any safe guide, though it differs somewhat in position and proportion; other characters used will be referred to when they occur, but none of them must be strictly and literally taken for the species vary greatly, and a little variation one way or another may occur without, however, conflicting with the character used to isolate an allied species.

The males may be recognized by the divided pygidium.

Two genera are described as occurring in an fauna, the old genus *Apion* of great extent and varying greatly while retaining for its species a remarkable similarity of superficial appearance, and *Podapion* Riley described on a single peculiar species. They are easily distinguished by the tarsi.

Tarsal joints subequal in width, not broader than long.....**Apion.**  
Tarsal joints widening to fourth joint; joints wider than long, the fourth much the widest.....**Podapion.**

#### APION Hbst.

Of this genus five sections of very unequal extent are indicated and may be recognized as follows:

Slender; thorax narrow, cylindrical, as long as or longer than wide, not perceptibly wider at base; sides usually equal, sometimes slightly dilated at middle; elytra narrow, oval. Except in *parallelum* the species are not pubescent.

Femur abruptly clavate, with an obtuse tubercle at inner side.....SECTION I.

Femur not abruptly clavate and without tubercles.....SECTION II.

More robust, usually pubescent, often densely so. Thorax never longer than wide, usually transverse, rarely cylindric, usually depressed above.

Rostrum tapering to tip, usually short and punctured.....SECTION III.

Rostrum not tapering to, but rather slightly enlarged or dilated at tip.

Thorax more or less distinctly widening to base, sometimes cylindric, sides equal or arcuate, but never wider at middle than at base.....SECTION IV.

Thorax usually depressed, widest at or behind middle and constricted at base.

Elytra ovate; thorax not cylindric.....SECTION V.

#### SECTION I.

The species of this section are elongate, slender, shining black, with none or but small humeri, and abruptly clavate femora (Plate 3, figs. 1 and 20); they are recognized at sight, and they may be determined as follows:

Elytra without humeri angles.

Eyes somewhat prominent, form very slender; thorax densely and coarsely punctured, 2 mm.....**erraticum.**

Eyes less distinct; form more robust; thorax less densely and coarsely punctured, 2 mm.....**obsoletum.**

Elytra with distinct humeral angle.

Humeri small, form slender, 1.5—3 mm.....**erythrocerum**.

Humeri larger, form robust, 2.25—3 mm.....**robustum**.

**A. erraticum** n. sp.—Entirely black. Head elongate, grossly and densely punctured, rostrum moderate in length, slightly curved, slightly dilated near middle, thence more slender to tip; antennae moderate, basal joint stoutest, not longer than third; second ovate, half shorter than first, club rather slender. Thorax narrow, cylindric, very slightly widening at middle, coarsely and densely punctured, an impressed dorsal line. Elytra with scarce evident humeri, sides narrow, elongate, ovate; striae narrow, punctures fine and distant; intervals flat. Sternum punctured in parallel rows; abdomen coarsely punctured. Length 2 mm.

*Hab.*—Texas, Iowa

Distinguished from the other species of the group by the prominent eyes and very slender, narrow, ovate form. The tarsal claws are dentate in one sex. A few specimens only.

It may be stated here that characters used in the synopsis are not always recapitulated in the descriptions, that the punctuation differs somewhat in coarseness in the specimens, and that the elytral stria differ somewhat in depth and in the distinctness of their punctures. The rostrum of the ♀ is usually longer than that of the ♂, and less distinctly dilated when there is any dilatation.

**A. obsoletum** n. sp.—Black, legs piceous, more robust and very little larger than the preceding. Eyes moderate, scarcely prominent; head canaliculate; rostrum slightly longer than in *erraticum*. Antennae elongate, piceous brown, basal joint equal to second and third together, the two latter equal in length. Thorax as before, but less coarsely punctured; elytra more broadly ovate; striae distinct punctures evident and approximate, intervals convex. Beneath densely punctured. Length 2 mm.

*Dacota, Michigan, Canada.*

Easily distinguished from the preceding by the characters given, and by the more portly appearance of the insect. The color of the legs varies from dark piceous brown to bright red-brown, hardly two specimens being alike. The geographical range of the species is wide, and it will probably be found all over the country. The specimens now known are few, and are scattered in several collections.

**A. erythrocerum** n. sp.—Entirely black. Head coarsely punctured, eyes not prominent; rostrum very slightly dilated at middle, moderate in length; antennae as in *obsoletum*, second joint ovate, stout, third clavate and more slender. Thorax densely and coarsely punctate, else as before. Elytra with distinct humeri, form stout, widest behind middle; striae fine, punctures scarcely evident, intervals convex. Beneath densely punctate; metasternal punctures in longitudinal rows to middle, and thence transversely forward to tip. Length 1.2 mm.

*Hab.*—Kansas, Middle States, D. C. and Tenn.

Distinguished from the preceding by the small size and evident humeral angles. Widely distributed, but only occasional specimens from each locality.

**A. robustum** n. sp.—Entirely black, antennae sometimes piceous. Head finely canaliculate or confluent punctured between the eyes; the latter not prominent; basal joint of antennae longer than second and third combined, else as before. Elytra twice as wide at base as base of thorax, wider behind middle, humeri acute. Striae distinct punctures evident, intervals wide, flat. Beneath abdomen rather finely punctured. Length 3 mm.

*Hab.*—Tex., Mo., Iowa.

Larger than all others of this section, and hence easily distinguished. The preceding is the only other species with evident humeri, and it is scarcely more than one-half as large as this species.

The four species of this section differ from all others known to me, by the peculiar structure of the anterior femora, which seems not to occur in any exotic species.

#### SECTION II.

The species of this section are more numerous, and closely resemble in general appearance the preceding, while evidently distinct by the lack of the femoral tubercle. Plate 3, fig. 1, shows the form of most species in section, while a few approach figs. 10 and 15; *punctinatum*, *parallelum* and *sordidum* are aberrant while evidently belonging here, and have each a unique and easily recognized appearance. The species are as follows:

Humeri of elytra wanting.

Rostrum dilated near base, elongate, slender, 2.5 mm.....**protensum.**

Rostrum not dilated near base.

Rostrum unusually stout and punctured, 1.4 mm.....**punctirostre.**

Rostrum elongate.

Pubescent, very narrow, parallel, 1.5 .....**parallelum.**

Not pubescent.

Elytral striae fine, intervals wide, flat.

Form very slender, thorax without impressed line 1.5 mm..**estriatum.**

Form more robust, thorax with evident impressed line.

Striae of elytra moderate, punctured. 2.5 .....**ovale.**

Striae of elytra narrow, punctures obsolete, 2 mm.

**impunctistriatum.**

Elytral striae wide, intervals convex.

Black, punctures of striae moderate, form convex, 1.5 mm.

**desolatum.**

Fulvo piceous, punctures of striae gross, form subdepressed, 1 mm.

**sordidum.**

Humeri of elytra evident.

Rostrum not dilated near base.

Eyes distinct, somewhat prominent, head wide.



with a dorsal line foveate near base. Elytra but little ovate, slightly aeneous, striae moderate, intervals wide, flat or slightly convex. Length 1.5–2 mm.

*Hab.*—Wy., Dac., Col.

This species is peculiar by the stout, distinctly punctured rostrum, only one other species in another § (*attenuatum*) approaching it in this respect. The ♀ differs considerably from the ♂, first in the larger but equally stout rostrum, and second, by the thorax which is nearly as wide as long and distinctly wider at middle, and somewhat constricted at base; this makes it resemble *attenuatum* enough to render care requisite to distinguish the species; the rostrum of the ♀, however, is larger than in the ♀ *attenuatum*, and the elytral sculpture among other differences renders a separation possible. The dorsal line of thorax, which becomes foveate at base, is another distinguishing feature of this species and allies it to the following groups where it is the rule. From Wyoming there are four ♂s, (Coll. Dr. Horn) and from Mr. Ulke I received a ♂ and two or three ♀s from Dac. and Calif.; the male agreed with the specimens from Wyoming, the ♀ differed from all the ♂s as above specified, and differed from each other in some points. A large series of this species would be interesting and desirable.

**A. parallelum** n. sp.—Black, elongate, slender, pubescent. Head moderate, eyes small but distinct, front punctured, rostrum moderate. Antennae with basal joint largest and yellow. Dorsal line of thorax obsolete, punctures moderate, sides equal. Elytral striae wide, punctures distinct, intervals narrow, convex, scabrous. Length 1.5 mm.

*Hab.*—D. C., Tenn.

Peculiar by the dense pubescence and the very narrow parallel form. The shape of the thorax evidently refers it here, while the dense pubescence as readily distinguishes it from all its neighbors.

Two specimens received from Mr. Ulke from the above localities, one in my collection.

**A. estriatum** n. sp.—Black, very slender, not pubescent. Head scarcely as long as wide, confluent punctured; eyes distinct, convex; rostrum elongate, slender; basal joint of antennae slightly longer than second; second slightly longer than third. Thorax with punctures rather superficial, usual impressed line obsolete and only very faintly visible at base. Elytra narrow, ovate; striae fine, punctures distinct, intervals wide, flat and smooth. Length 1.5 mm.

*Hab.*—Can., Col., Tex.

Distinguishable by its slender form, small size and the want of an evident dorsal line on thorax; but few specimens received from widely separated localities.

**A. ovale** n. sp.—Black, form ovate. Head longer than wide, eyes slightly prominent, rostrum elongate, slender, antennae as before, second joint stoutest



Thorax with a distinct impressed line. Elytra broadly ovate, striae finely but evidently punctured, intervals very slightly convex. Beneath, sternum evenly and moderately punctured, abdomen scabrous and irregularly punctate. Length 2.5 mm.

*Hab.*—Mo., Cal.

Ten specimens received from very divergent localities, and presenting nothing peculiar.

**A. impunctistriatum** n. sp.—Entirely black, rather broadly ovate. Eyes not at all prominent; antennae, head and thorax as before; thorax slightly produced into an obtuse tubercle at middle, rather finely and sparsely punctured. Elytra broadly ovate, widest behind middle; striae very fine, punctures not evident; intervals wide, flat and impunctured. Beneath obviously punctured. Length 2 mm.

*Hab.*—Texas, D. C.

Presents nothing unusual and much resembles *ovalis*; sufficiently distinct, however, by the smaller size, somewhat stouter form, the slight tubercles or angles at the sides of thorax, the less distinct eyes and the narrow impunctured striae.

**A. desolatum** n. sp.—Entirely black, slender, very much elongated. Thorax unusually long, moderately punctured, elytra without trace of humeri and very narrow, ovate, striae punctured, intervals convex. Length 1.5 mm.

*Hab.*—Ga.

Unique in its attenuate appearance, and thereby easily distinguished from others in this group. The elytra lack all trace of humeri; usually even in species which have no obvious humeral angles, there is an elevation more or less distinct on the elytra, which indicates the humeri.

**A. sordidum** n. sp.—Fulvo piceous, elytra paler, slender, sparsely pubescent. Head broad, eyes distinct; rostrum sulcate from base to middle; antennae short and stout. Thorax grossly, but somewhat sparsely punctured, with a short foveate line at base. Elytra narrow, ovate, humeri very slightly indicated, striae wide and deep, densely and grossly punctured, intervals narrow, carinate. Beneath rather sparsely punctured, more distinctly pubescent. Length 1.25 mm.

*Hab.*—U. T.

This species was in Dr. Horn's collection, labelled "from galls on *Artemisia*." Subsequently I received the same species from Prof. Riley, with the same legend; whether the species is a true gall maker or only an intruder in the galls from which it was bred is still a question. Most likely it will be found to be the producer of the gall. The few specimens I have seen were all alike, and all from one locality—probably they will be found wherever *Artemisia* grows. The insect is so distinct by color and elytral sculpture that an enumeration of the differences between it and the species associated with it, seems superfluous.

**A. floridanum** n. sp.—Black, form rather slender. Head as wide as long, scabrous, punctate, and finely excavate between the eyes; the latter are small and prominent. Antennae long, basal joint exceeding second and third; thorax punctate, opaque, impressed line distinct, elytra with humeri but little prominent, striae fine, punctures obsolete, intervals wide, flat and smooth. Length 2 mm.

*Hab.*—Fla., Cal., Ariz., Ia., D. C.

Single specimens only from each of the above localities, and presenting nothing peculiar.

**A. obesum** n. sp.—Black, tibiae sometimes piceous, form more robust. Head finely punctured and scabrous, eyes scarcely prominent, antennae as before; thorax slightly widening at middle, moderately punctured, with impressed line distinct; elytra broadly ovate, nearly as wide at middle as long, humeri evident, striae distinctly punctured, intervals rather narrow, scabrous and punctate. Length 2–2.5 mm.

*Hab.*—Mich., Tex.

A few specimens only received, characterized by the very robust body and rather elongate head and thorax. Easily distinguished by superficial comparison from the preceding, and by size from the following.

**A. parvulum** n. sp.—Bronze or brassy black, sometimes deep shining black. Head rugose and canaliculate between the eyes, the latter scarcely prominent, antennae as before; thorax but little longer than wide, else as before, but more grossly punctured; elytra broadly ovate, but less obese than in the preceding, humeri small, striae distinct, punctures obsolete, intervals rather narrow, convex. Length 1.5 mm.

*Hab.*—Middle States.

The aeneous lustre and small size will serve to distinguish this species from its near neighbors.

**A. atripes** n. sp.—Black, glabrous, form robust. Head broad, eyes prominent, head finely rugose, front tri-sulcate. Thorax about as wide as long, slightly coarctate at base and tip, sides slightly rounded, with large, shallow, closely set punctures. Elytra broad, sides nearly parallel to middle, striae deep, distinctly punctured, intervals moderate, flat and punctured. Length 1.25–1.5 mm.

*Hab.*—Ga., Fla., Cal.

This may possibly be the *A. nodirostre* Gerst. Stet. Ent. Zeit. 1854, 241. His species is from Florida, and the description agrees tolerably well with this insect, but the rostrum is not at all dilated and some other details do not agree, and I prefer therefore to consider this as a new species.

**A. eribricolle** Lec. Pac. R. R. Expl. and Surv. Ins. 53; *porosicolle* Gem. Col. Hefte viii 122.—Entirely black, form robust. Head and thorax elongate, distinctly longer than wide, and grossly punctured, antennae as usual. Elytra moderately ovate, widest behind middle, humeri distinct; striae fine, superficial, obsolete or distinctly punctured, intervals wide, flat and punctate. Length 2–2.5 mm.

*Hab.*—Col., Tex., Fla., Neb., Ariz.

A species without marked peculiarities and more common than most of the others in this section.

**A. melanarium** Gerst., Stet. Ent. Zeit. 1854, 261.—Black, legs and antennae blackish piceous, often paler, form more robust than in the preceding. Head and thorax as before, but less coarsely punctured and with a distinct tubercle or angle at sides. Elytra nearly as wide as long, humeri distinct; striae fine, intervals wider than in *cribricolle*. Length 3 mm.

*Hab.*—Tex., Vanc. and Ga., Ariz.

This species and the preceding are very closely related. The general form and proportion are nearly the same, and care is necessary to separate them. The punctuation of the elytral striae differs considerably in the specimens.

**A. minutum** n. sp.—Black. Head very finely and somewhat sparsely punctured, rostrum rather short; thorax finely and sparsely punctured, impressed line distinct. Elytra scarcely wider than long, humeri small, striae narrow, intervals convex. Beneath sternum bistriate, else finely scabrous. Length 1 mm. (scarcely).

*Hab.*—Fla., N. Y.

Easily known from its near neighbors by the very small size.

**A. pensylvanicum** Boh., Schoen Curc. 5, 417.—Black, legs and antennae piceous brown, form moderate. Head very long, densely punctate and somewhat excavate between the eyes, which are not at all prominent. Antennae moderate in length, basal joint longer than second and third, second shorter than third but more robust. Thorax finely punctured, dorsal line obsoletely indicated. Elytra with distinct though not prominent humeral angles, moderately ovate; striae moderate, punctures fine. Sternum bistriate, abdomen punctured. Length 2 mm.

*Hab.*—Cal., Ariz.

The first of the species with dilated rostrum and distinct by the attenuate head and thorax.

**A. opacicolle** n. sp.—Black. Head scabrous with fine furrows between eyes. Antennae short, joints proportioned as before. Thorax very slightly widening to base, scabrous and irregularly punctured without the dorsal impressed line; elytra short, but little wider behind middle; striae deep, punctures distinct; intervals moderate, convex and opaque. Beneath sternum sparsely, abdomen densely and coarsely punctured. Length 2 mm.

*Hab.*—Cal., Ariz., Or.

Readily distinguished from the preceding by the form.

**A. oedorhynchum** Lec., Pr. Ac. N. Sc. Phil. 1858, 78.—Black. Head densely punctured, antennae as before. Thorax, sides equal, densely and irregularly punctured, with a distinct impressed line. Elytra but little longer than wide, humeri broad. Beneath moderately punctured. Length 1–1.5 mm.

*Hab.*—Cal., Ariz.

Closely related to the preceding, but easily distinguished by the smaller size, and the sculpture and form of thorax.

**A. texanum** n. sp.—Black. Head densely and coarsely punctured; antennae as before, thorax densely and coarsely punctured with an evident impressed line. Elytra regularly ovate, humeri scarcely prominent, striae distinct, punctures evident, intervals moderate, smooth, convex. Beneath, sternum moderately, thorax coarsely punctured. Length 1 mm.

*Hab.*—Texas.

One of our small species and the smallest in this subsection, and therefore easily recognizable.

**A. ellipticum** n. sp.—Black. Head as wide as long, densely but rather finely punctured, distinctly excavated between the eyes; rostrum short; antennae inserted rather close to base, joints proportioned as usual. Thorax but little longer than wide, densely and finely punctured. Elytra broadly ovate, widest at middle, striae deep, punctures rather small, intervals wide with a row of fine punctures. Sternum striate, abdomen punctured. Length 1.5—2. mm.

*Hab.*—Neb., La.

The head of this species is unusually large, and the antennae are inserted unusually close to base. These characters, in addition to the thorax, which is slightly wider at middle, renders the recognition of the species tolerably easy. They seem to be common enough in Nebraska, judging from the number of species recorded from that locality.

### SECTION III.

The species of this group are distinguished by the generally short, robust rostrum, more or less attenuate toward tip (Plate 3, fig. 8), most distinctly so in the ♂. The form is generally robust, often obese, as in *brevicolle*, but generally more like Plate 3, fig. 11; they are closely related usually, but are easily distinguished as follows:

Humeri of elytra wanting, 2 mm.....**californicum**.

Humeri of elytra evident.

Base of thorax straight or not perceptibly sinuate.

Thorax moderate in length, sides arquate, rounded.

Legs and antennae rufous, 1 mm. ....**decoloratum**.

Legs and antennae black

Basal joint of antennae short, 1.5 mm.....**concoloratum**.

Basal joint of antennae long, 1 mm.....**carinatum**.

Thorax short, sides straight, equal.

Humeri broadly prominent, body very robust, slightly aeneous 2 mm.

**brevicolle**.

Humeri but little prominent, opaque.

Body short, robust, thorax moderately punctured, 1.5 mm....**typicum**.

Thorax densely and coarsely punctured, 2 mm. ....**abdominale**.

Body longer, more slender. 2.5 mm.....**antennatum**.

Base of thorax distinctly bisinuate.

Thorax widest behind middle, distinctly narrowed at base.

Surface pubescent, thorax greatly narrowed, 2 mm.....**cordatum**.

Not pubescent, thorax less narrowed behind, 1.5 mm.....**capitatum**.

Thorax widest at base.

Head wide, eyes distinct, and rather prominent, 1.5 mm.....**oblitum**.

**A. californicum** n. sp.—Black, antennae piceous, form narrow, ovate. Head broad, coarsely punctured; eyes globose, prominent; antennae inserted near base of rostrum; basal joint equal to second and third; thorax about as long as wide; widest before base; sides sinuate, densely and coarsely punctured, with a longitudinal foveate puncture at base. Elytra regularly ovate; striae wide and shallow; punctures distant, intervals moderate, very finely punctate. Beneath coarsely and rather distantly punctured. Length 2 mm.

*Hab.*—California.

Easily distinguished from the others in this section by the want of humeri. Described from a single specimen (♂?) in Dr. Leconte's collection. A second specimen received long afterward from Mr. Bolter, of Chicago, labelled "1750 feet Geysers Cal., May 21." Agrees very well with the type except that the rostrum is much longer; scarcely attenuate toward tip, and the body much more robust; the specimen is evidently a ♀, and has the same dull and rather sordid appearance of the type, so that the most cursory examination refers it to this species at once; meanwhile the characters of the rostrum and body in the description are most applicable to the ♂.

**A. decoloratum**, n. sp.—Black; antennae and legs piceous; legs often paler, usually rufous. Head longer than wide, densely punctured; eyes convex, but scarcely prominent; rostrum short and stout; antennae short; basal joint scarcely longer than second, and not so stout. Thorax as long as wide; widest at base; sides rounded, grossly punctured, and with a short impressed line at base. Elytra humeri moderate; striae evident, punctures distinct, intervals convex, scabrous. Beneath moderately punctured. Length 2 mm.

*Hab.*—N. C., D. C., Ariz., Md., Va.

Distinguished at a glance from the others in this section by the red legs.

**A. concoloratum** n. sp.—Black; head elongate, rugose, and punctured; eyes large, but occasionally prominent; rostrum distinctly dilated near base; thorax as before. Elytra broadly oval; striae wide and deep; punctures profound; intervals narrow and convex. Length 1.5 mm.

*Hab.*—Cal., W. Va., Ga., Mich., Fla.

Rather obscurely characterized, and distinct rather by an aggregation of small differences than by any striking peculiarity.

**A. carinatum** n. sp.—Entirely black, very robust. Head transverse, densely punctured; carinate between the eyes, which are not prominent; antennae short; thorax wider at base than long; densely and grossly punctured,

with a distinct impressed line. Elytra almost hemispherical in form; striae deep, punctures large, interspaces convex and narrow. Beneath densely punctured. Length 1 mm.

*Hab.*—Fla., Texas, Neb.

**A. brevicolle** n. sp.—Black, often slightly aeneous. Head longer than wide, densely scabrous, and canaliculate between the eyes; the latter small and not prominent; basal joint of antennae equalling second and third; the two latter subequal. Thorax as wide as long, sides equal, moderately punctured, impressed line distinct. Elytra as wide as long; little wider at middle; humeri broad, prominent; striae fine, punctures fine, sometimes scarcely evident; intervals wide, flat, and with fine punctures. Beneath moderately punctured. Length 1.5–2 mm.

*Hab.*—Cal., Texas, Ariz.

Easily recognized by the small head and thorax, and the very large obese body. It seems thus far limited to the Southwest, but is not uncommon there.

**A. typicum** n. sp.—Black, form robust. Head elongate, moderately punctate; eyes not at all prominent; antennae moderate: basal joint longest, and rather slender, inserted near to base of rostrum. Thorax short, narrow; sides parallel, equal, moderately, or rather coarsely punctured, with distinct dorsal line. Elytra almost as broad as long, subglobose; humeri not greatly prominent; striae deep, distinct; punctures not distinctly evident; intervals rather wide, strongly convex. Beneath densely scabrous and punctured. Length 1–1.5 mm.

*Hab.*—Cal.

Rather an obscure species, somewhat smaller than its allies, and somewhat differing in form. It seems not uncommon.

**A. abdominale** n. sp.—Black, form very robust. Head much broader than long; very densely and coarsely punctured; eyes prominent, large; a distinct sulcus from base of rostrum to middle, where it is distinctly dilated; antennae short and stout: basal joint half exceeding second, and with it forming one-third the whole length of the member. Thorax very short and narrow; very grossly and densely punctured, with a larger foveate puncture near base. Body very convex, almost globose; elytra scarcely longer than wide, widest behind middle; striae wide, punctures deep and close; intervals moderate, but little wider than striae. Beneath very densely, but not so grossly punctured. Length 2 mm.

*Hab.*—Ariz., Ill., D. C.

Another obese species, readily distinguished by the very coarse punctuation.

**A. antennatum** n. sp.—Black, more elongate than the preceding. Head transverse, rather finely punctured, with a more or less distinct impression on front: eyes not prominent; antennae moderate; basal joint not elongate, inserted two-fifths from base of rostrum. Thorax, sides straight, about as long as wide, widest at base; punctuation rather sparse and fine; dorsal line more or less distinct, sometimes obsolete. Elytra moderately ovate, not obese; striae distinct, punctures large; intervals wide, and somewhat convex; finely scabrous. Beneath finely and sparsely punctured. Length 2 mm.

*Hab.*—Cal., Ariz.

Slighter than its allies; opaque and not at all shining. The rostrum differs somewhat in form, being in some specimens almost equal, or even at first sight appearing slightly dilated at tip, but it is always robust and punctuate, and in the majority of specimens it is gradually and slightly attenuated to tip.

**A. cordatum** n. sp.—Black, moderately pubescent; form elongate. Head elongate, rugose; distinctly sulcate between the eyes; the latter moderate and not prominent; antennae moderate; basal joint slightly exceeding second, but more slender. Thorax flattened above, decidedly widest behind middle, and much constricted at base; sides somewhat acutely produced behind middle, densely and irregularly punctured, a deeper foveate line near base. Elytra fully one-half longer than wide; sides parallel; striae deep, punctures distinct, intervals flat and finely punctured. Beneath moderately punctured. Length 2 mm.

*Hab.*—California.

The strongly constricted thorax renders this species peculiar, and its recognition easy; the rostrum is only moderately attenuated toward tip, and is rather longer than usual in this section. Only a single specimen, Coll. Dr. Leconte.

**A. capitatum** n. sp.—Black, not at all pubescent. Head narrow, small, finely and densely punctured; eyes not prominent. Thorax not much wider at middle than at base, densely and irregularly punctured, with an indistinct longitudinal line most evident at base. Elytra broadly ovate, widest about middle, scarcely one-half longer than wide, humeri broad; striae narrow, punctures distinct, intervals moderate, flat. Length 1.5—1.75 mm.

*Hab.*—Mich., Neb., Oregon.

Easily distinguished from the preceding by the lack of pubescence, and by the form of the thorax.

**A. oblitum** n. sp.—Black, form moderate. Head transverse, rather sparsely punctured; eyes distinct, and somewhat prominent; distinctly so in some specimens; rostrum unusually slender for this section, distinctly dilated near base; antennae moderate, inserted one-third from base of rostrum. Thorax transverse, widest at base, sides arquate, or rounded; coarsely punctured, and with a deep foveate elongate puncture near base. Elytra moderate ovate; striae distinct, punctures large, intervals wide, and somewhat convex, shining. Beneath rather finely and sparsely punctured. Length 1.5—2 mm.

*Hab.*—Col., Cal., Texas, Kan., Fla.

Distinguished by the form of thorax; bears a superficial resemblance to *antennatum*, and has the same general form of body.

#### SECTION IV.

The species of this section are by all odds the most numerous, and there are several distinct forms indicated, which I use to form groups of closely allied species. All of the species have the thorax as wide at base as at middle, or it is widest at base with the angles acute; they are

usually pubescent, and generally have a foveate puncture or impressed line at the middle of base, rarely reaching to the apex, and not attaining one-half that distance; by the aid of the figures and the table the following groups may be recognized, the name of a typical species being used to designate the groups:

Body obese, elytra almost as broad as long..... *Group ventricosum*.

Body more elongate, very convex; elytra narrow at base, dilated to behind middle; pear-shaped..... *Group pyriforme*.

Body more equal, moderately convex; elytra more regularly ovate.

*Group crassinasum*.

Body robust, sub-depressed above; sides of elytra parallel; thorax not cylindric.

*Group segnipes*.

Body subcylindric; thorax cylindric; sides usually arquate, and very slightly constricted at base; elytra elongate; sides subequal..... *Group troglodytes*.

#### Group *ventricosum*, Plate 3, Fig. 9.

This group contains but few species, very robust in form, which are as follows:

Thorax very short, sides equal; elytra nearly as broad as long, 1.5—2 mm.

***ventricosum*.**

Thorax moderate in length, sides somewhat arquate, elytra less broad, color bronze-brown, eyes prominent, head broad, 1 mm..... ***subglobosum*.**

Color black, slightly aeneous, head narrower, eyes less prominent, not evidently pubescent, 1.5 mm..... ***turbulentum*.**

Opaque, distinctly pubescent, 1 mm..... ***minor*.**

**A. *ventricosum*** Lec. Pr. Ac. N. Sc. Phila., 1858, 78.—Black form, very obese. Head elongate, distinctly punctured; eyes not prominent, rostrum distinctly dilated near base. Thorax densely punctured; sides equal, very little wider at base; a short longitudinal dorsal fovea. Elytra very broadly ovate; humeri prominent, striae fine, punctures distinct, intervals wide and flat. Beneath, densely punctured. Length 1.5—2 mm.

*Hab.*—Cal., Ariz., Texas, Mass.

Distinguished from the others in this group by the very short thorax and the ventricose elytra. All the species in the group have the elytra very broad, but none so broad as this, and in none of them is the thorax so disproportionately short and narrow.

**A. *subglobosum*** Gerst. Stet. Ent. Zeit., 1854, p. 243.—Brassy, or bronze-black, legs piceous, sparsely pubescent. Head transverse, longitudinally rugose, eyes prominent, antennae elongate, slender, second joint nearly equalling first in all particulars. Thorax cylindrical, sides sub-equal, slightly widening to base, moderately punctured, longitudinal impressed line from base to middle only. Elytra widest behind the middle, striae narrow, punctures small and rather close, interspaces wide, flat, and smooth. Beneath finely scabrous and punctate. Length 1 mm.

*Hab.*—Florida.



I have seen two specimens only; easily distinguished by their bronze color from the others in this group.

**A. turbulentum** n. sp.—Black, often somewhat aeneous, and sometimes slightly pubescent; somewhat less obese than the preceding; rostrum slender, sometimes a little dilated near middle; head punctured. Thorax coarsely punctured with a distinct impressed line. Elytral striae wide, shallow; punctures large, intervals moderate, convex. Beneath punctured. Length 1.5 mm.

*Hab.*—Middle States, Texas, Cal.

Rather common and widely distributed. It varies somewhat in size, color, and vestiture, being occasionally quite perceptibly pubescent.

**A. minor** n. sp.—Differs from the preceding by the smaller size and the distinct pubescence; the thorax is wider at base, and has a deep tovea on dorsum; the punctuation is coarse and dense; elytra somewhat more ovate, and slightly less obese than usual. Length 1 mm.

*Hab.*—Cal., La.

#### Group **pyriforme**, Plate 3, Figs. 3 and 18.

The species in this group are very readily recognized by their very convex form and pear-like shape; they number but three, and each is aberrant in color, so that irrespective of the structural characters of the group, the species can be recognized at sight. They are tabulated as follows:

Color black, legs red, 3 mm.....	<b>dilatatum.</b>
Color fuscous, with pale pubescence; elytra with a dark, naked, median fascia, margined with dense paler pubescence, 2—3.5 mm. ....	<b>herculanum.</b>
Color black, elytra rufus, 1.5—2 mm.....	<b>pyriforme.</b>

**A. dilatatum** n. sp.—Black legs except knees, and tarsi pale red or yellow; pubescent. Head elongate, punctured, and rugose between the eyes, the latter not prominent; rostrum greatly dilated near base; basal joint of antennae stout, but little longer than second. Thorax densely and finely punctured, wider at base than long; base bisinuate. Elytral striae distinct, punctures evident, intervals moderate and flat. Beneath densely and finely punctured. Length 3 mm.

*Hab.*—Arizona.

Unique in form and coloration, and therefore distinguishable at a glance; the form is the extreme of dilation of the elytra behind the middle, while the base is comparatively narrow; pear-shaped best expresses it. Several specimens seen, and all from Arizona.

**A. herculanum** n. sp.—Piceous brown pubescent, with a naked darker fascia on elytra. Head short, broad, finely punctate; eyes moderately prominent, rostrum elongate, slender equal throughout; antennae inserted close to base of rostrum, first joint equalling second and third. Thorax about as long as broad, sides sinuate, slightly cordate before middle, widest near base; above finely punctured, with a short impressed dorsal line. Elytra humeri small; striae moderate, evidently punctured; intervals flat, scabrous: surface covered with a fine greyish

pubescence, leaving only a moderately wide fascia on middle naked, the space margined by paler whiter pubescence. Beneath moderately punctate. Length 2—3.5 mm.

*Hab.*—Penn., N. Y., D. C., Mass.

A very variable species as regards size and intensity of color, one specimen taken by me in New York being fully 3.5 mm. in length, and pale brown in color, and the impubescent fascia strongly marked. A number of specimens from Massachusetts seen in Mr. Austin's collection were scarcely 2 mm. in length, and of an almost uniform sordid brown. It seems not uncommon.

**A. pyriforme** n. sp.—Black, elytra brown-red; pubescent. Head elongate, narrowing from base to rostrum; eyes not at all prominent; front densely punctured and rugose, clothed with fine white pubescence; rostrum short and thick; antennae moderate, joints proportioned as before. Thorax as long as wide; wider at base, densely punctured and pubescent, with a longitudinal impressed line profound at base, obsolete toward tip. Elytral humeri small, striae profound, punctures moderate, intervals narrow and convex. Beneath sternum with three longitudinal striae, abdomen punctured. Length 1.75—2.25 mm.

*Hab.*—Arizona.

The type of the group and rather more compactly built than either of the two others. The difference in coloration between the thorax and elytra will serve to distinguish it. A few specimens only, all from one locality.

Group **crassinasum**, Plate 3, Fig. 13.

The species of this group are moderately convex, the elytra narrow or moderately ovate in form; the species, excepting *modestum* and *perminutum*, are closely allied, but yet sufficiently distinct to prevent mistakes. The following table will aid in identifying them:

Thorax narrow, cylindric; sides equal, but little wider at base than apex.

Distinctly pubescent, basal joint of antennae long, piceous, 2.25 mm.

**Walshii.**

Sparsely or not pubescent; basal joint of antennae short, black, 2 mm.

**vicinum.**

Thorax distinctly wider at base; sides oblique or arquate.

Rostrum greatly dilated near base.

Color brassy black, distinctly pubescent, 2.25 mm.....**crassinasum.**

Rostrum but little or not at all dilated near base.

Elytra widening to behind middle, size large, 2—2.25 mm.....**proclive.**

Elytra more equal; size small.

Legs black; pubescent, 1 mm.....**modestum.**

Legs red; not at all pubescent, 1 mm.....**perminutum.**

**A. Walshii** Smith, *lanuginosum*. Walsh Pr. Ent. Soc. Ph., 1867, 269.—Black, pubescent. Head small, conic, narrowing regularly to rostrum, densely punctured; eyes not at all prominent, rostrum elongate; basal joint of antennae equal to one-third of whole length of that member; second nearly half as long as first. Thorax

widest at base, dense punctured with an indistinct and irregular longitudinal line. Elytra more than one-half longer than wide; humeri small; striae deep, punctures evident, intervals narrow, convex. Beneath evenly punctured. Length 2.25 mm.

*Hab.*—Canada, Eastern, Middle, and Western States.

This I am quite positive is the species described by Mr. Walsh, but the name given by him being pre-occupied, I dedicate the species to its original describer, who says he obtained the insect from galls on *Salix strobiloides*, made by a *Cecidomya*. It seems to be common, and I have obtained it from various localities, indicating that it is widely distributed. The pubescence is distinct, and gives the insect a grayish appearance, which, as well as the somewhat larger size, seems to separate it from the following species.

**A. vicinum** n. sp.—Black; of the same general form as the preceding, but not pubescent. Head moderately punctured; eyes distinct, but not prominent; antennae with basal joint short, and but little exceeding the second. Thorax with sides more equal, punctures less dense. Elytra as before. Beneath finely punctured. Length 2 mm.

*Hab.*—Cal., N. Y., D. C.

Closely allied to the preceding, but yet evidently distinct from it; the lack of pubescence and smaller size will serve to distinguish the species.

**A. crassinusum** Lec. Pac. R. R. Expl. and Surv. Ins. 53.—Of the same general form and appearance as *A. proclive*, Lec., but has the rostrum shorter, stouter, and more distinctly dilated; the antennae are shorter and more compact; the color is brassy black, and the pubescence is not as distinct. Length 2—2.25 mm.

*Hab.*—Cal., D. C., Tenn., Or.

**A. proclive** Lec. Pac. R. R. Expl. and Surv. Ins. 53.—Black, pubescent. Head elongate, scabrous, and rugose; sulcate between the eyes; the latter are not prominent; rostrum elongate, very slightly dilated near base; antennae elongate, basal joint composing one-third of the whole member. Thorax densely punctured, with a foveate puncture near base. Elytra one-half longer than wide; striae distinct, punctures evident, intervals moderate, flat and scabrous. Beneath densely and irregularly punctured. Length 2—2.25 mm.

*Hab.*—Cal., Col., Ga.

Rather rare, single specimens only being found.

**A. modestum** n. sp.—Black, distinctly pubescent, form moderate. Head transverse, rugose, and punctured; eyes prominent, rostrum slender and equal. Thorax cylindric, widest near base, and very slightly narrower at base, apex one-third narrower than base, sides arcuate; rather densely and distinctly punctured, a foveate puncture near base. Elytral striae fine, punctures scarcely evident, intervals wide, flat. Length 1 mm.

*Hab.*—Ariz., Kans., Fla.

Easily known from all others in this group by its small size, uniform color, and distinct pubescence. Only a few specimens.

**A. perminutum** n. sp.—Black, legs pale yellow, entirely without pubescence. Head as wide as long, densely punctured, rugose between the eyes; the latter are large and distinct, but scarcely prominent; antennae piceous, rostrum piceous, slender, short. Thorax distinctly constricted at base, less so at apex, widest behind middle. Elytral striae fine, punctures small, intervals wide and slightly convex. Beneath rather finely and sparsely punctured. Length 1 mm.

*Hab.*—Texas, Ga., D. C., Mass.

Easily distinguished by its small size, intense black color, and red legs. It seems to be rather uncommon, only one or two specimens from any one locality being received.

Group **segnipes**, Plate III. Fig. 12.

This group contains three very closely allied species, distinct by the broad, almost square elytra, and by the very dense whitish pubescence on two of its species. They are separated as follows:

Densely pubescent.

Legs red, 2—2.5 mm. .... **segnipes**.

Legs black, humeri of elytra not elevated, 2—2.5 mm. .... **griseum**.

Sparsely pubescent, humeri of elytra elevated, 2—2.5 mm. .... **fraternum**.

**A. segnipes** Say Curc. p. 6, Lec. Ed. Say Am. Ent. 1, 264; *cinereum*, Gerst. Stet. Ent. Zeit., 1854, 250.—Black, antennae except club, and legs except knees and tarsi, pale reddish; so densely clothed with white pubescence as to give the insect an ashy gray appearance. Head elongate, closely punctured, eyes not prominent; antennae moderate, basal joint one-half longer than second, and as thick; rostrum moderate and slender. Thorax much wider at base than at apex, widest just before the base, densely punctured, and with a median impressed line, distinct at base, but obsolete before the middle. Elytra but little longer than wide, sides subequal, striae narrow, punctures distinct, intervals wide, flat and scabrous. Beneath grossly and evenly punctured. Length 2—2.5 mm.

*Hab.*—Western and Southern States.

Varies somewhat in size, in the density of the pubescence, and in color of legs, but always easily recognizable. It is common where it occurs. Say describes it as in seeds of *Astragalus*. Riley says it is found in seeds of *Tephrosia virginica*. *Astragalus*.

**A. griseum** n. sp.—Black, densely pubescent. Head as in the preceding, a distinct sulcus from base to middle of rostrum; antennae rather short and heavy, thorax and elytra as in the preceding, striae distinct, punctures evident, intervals narrow, flat and finely punctured. Beneath finely and densely punctured. Length 2—2.5 mm.

*Hab.*—Middle, Southern and Western States.

Of the same general form and appearance as the preceding, and with similar pubescence, but at once distinct by the black legs. The insect

is widely distributed, but does not seem to be common anywhere. Mr. Riley says that it probably bores in the stalks of potato vines.

**A. fraternum** n. sp.—Black, slightly aeneous, pubescence fine or entirely wanting; of the same form and general appearance as the preceding. Head transverse, eyes prominent. Thorax distinctly widest at base, else all as before. Length 2.25 mm.

*Hab.*—Southern and Western States.

Readily distinguished from the preceding by the almost entire lack of pubescence, and the somewhat aeneous color. Mr. Riley says it is found in *Phaseolus pauciflora*, and from the number in his collection it appears to be common.

Group **trogloodytes**, Plate III, Fig. 17.

This group is closely related to the preceding, while at sight obviously distinct from it in its narrower and generally more cylindric form; each of the species has a peculiar facies, readily recognized, and while *trogloodytes* enjoys a very large range of variation, there is scarcely a probability of mistaking a specimen for anything else.

The species may be separated as follows:

Densely pubescent; pubescence pale, white.

Basal joint of antennae yellow; rostrum of ♀ often very long and slender, intervals of elytra flat, 1—1.5 mm..... **varicorne**.

Antennae entirely black.

Humeri distinct, elytra scarcely longer than wide, 1—1.5..... **trogloodytes**.

Humeri small, elytra much longer than wide, 2 mm..... **extensum**.  
Sparsely or not at all pubescent.

Humeri distinct, form robust.

Color brassy, intervals of elytra wide, flat, 2 mm..... **aeneipenne**.

Color black, intervals of elytra narrow, convex, 2 mm..... **contusum**.  
Humeri small, form more slender.

Rostrum slender, often very elongate in ♀; intervals of elytra narrow, convex, 1.5 mm..... **tenuirostrum**.

Rostrum unusually short and stout, 1.5 mm..... **attenuatum**.

**A. varicorne** n. sp.—Black, antennae piceous, basal joint yellow, densely pubescent. Head rather longer than wide, scabrous and punctured, distinctly sulcate between the eyes, the latter not prominent; antennae rather short, basal joint longest. Thorax wider than long, distinctly widest at base, densely punctured, without basal fovea or impressed line. Elytra one-half longer than wide, slightly ovate, humeri not prominent, striae distinct, but rather shallow, punctures evident, intervals flat. Beneath sternum longitudinally rugose, abdomen densely punctured. Length 1—1.5 mm.

*Hab.*—Southern and Western States.

This species may be confounded with *tenuirostre* at first sight; the ♀ ♀ have the same long rostrum, and the form of the thorax is very much alike. The pubescence varies somewhat in density, and the elytra some-

what in sculpture, but the yellow basal joint of the antennae is always present, and in connection with the other characters may be relied on to distinguish the species; from *troglydytes* the species is readily separated by the thorax and the antennae, though the ♂♂ have very much the general habitus of *troglydytes*. It does not seem to be very common.

**A. troglodytes** Mann. Bull. Mose., 1843, 289: *metallicum*, Gerst. Stet. Ent. Zeit. 1854, 243.—Black, sometimes with a brassy tinge, densely pubescent, the brassy specimens sometimes less so. Head broad, eyes distinct, but hardly prominent, vertex finely punctulate and sulcate: a more distinct sulcus at base of rostrum, the latter rather short, equal and stout; antennae stout, basal joint exceeding second and third, second stoutest. Thorax transverse, widest near base, and very slightly constricted at base: evenly and rather sparsely punctured, with a short foveate line not attaining the middle. Elytra hardly one-half longer than wide: sides equal, or very slightly ovate; striae narrow, evidently punctured: interstices wide, flat and finely rugose. Length 1–1.5 mm.

*Hab.*—Southern and Southwestern States.

A common species, and greatly varying in size, less in form and pubescence. It has a squat, compact appearance, which is peculiar to it, and somewhat so to this group. The color is somewhat variable, and the aeneous specimens are usually least pubescent. One of these probably furnished the type of *metallicum*, Gerst.

**A. extensum** n. sp.—Black, densely pubescent, except feet and antennae. Of the general form of the preceding, but punctuation throughout fine and even; no thoracic line, striae fine, punctures small, intervals flat. Length 2 mm.

*Hab.*—Mont., Kans.

This species is rather more elongate than the preceding, but of the same general form. The lack of pubescence on the legs and antennae makes these members seem intensely black, and gives the insect a peculiar appearance. Two specimens only, received from Mr. Ulke.

**A. aeneipenne** n. sp.—Blackish bronze, not pubescent, form robust. Head and thorax finely and densely punctured, the latter with a foveate puncture near base, where it is also widest. Elytral striae fine, narrow: punctures small, intervals wide, flat and smooth. Beneath moderately and evenly punctured. Length 2 mm.

*Hab.*—D. C.

Easily distinguished by the brassy or bronze black color and robust form. Two specimens only, from Mr. Ulke.

**A. contusum** n. sp.—Grayish black, basal joint of antennae yellow. Head short, transverse: eyes small, not at all prominent; front longitudinally rugose, antennae long and slender, basal joint longest and very slender. Thorax moderately punctured, with a distinct fovea at base, the latter subsinuate: general form

as in troglodytes. Elytra one-half longer than wide, sides equal, striae deep, punctures evident, intervals narrow, convex. Beneath sternum rugose, abdomen punctured. Length 2 mm.

*Hab.*—Dac.

A single specimen only, Coll. Ulke.

**A. tenuirostrum** n. sp.—Black, very sparsely or not at all pubescent. Head conic, finely punctured and scabrous; eyes small, not at all prominent; antennae moderate inserted very close to base of rostrum; basal joint scarcely equaling second and third; rostrum elongate, slender in ♀, nearly equalling the body in length, not dilated near base. Thorax wide, sides arcuate, densely and grossly punctured, and with a longitudinal fovea near base. Elytra without evident humeri, very slightly ovate, nearly twice as long as wide; striae deep, punctures evident, intervals narrow and convex, though sometimes but slightly so. Beneath equally punctured. Length 1.5 mm.

*Hab.*—Texas, Kans., Neb., D. C.

The relationships of this species have been already mentioned in connection with those species which it resembles, and need not be again reviewed here.

**A. attenuatum** n. sp.—Black, legs and antennae dark brown, or blackish piceous, but little pubescent. Head as long or longer than wide, densely punctured, eyes distinct, but hardly prominent; rostrum short and stout, sometimes a little dilated near base. Antennae short and stout, basal joint but little exceeding second in length, but shorter; others (except club) moniliform. Thorax cylindric, hardly wider at base, sides sub-arcuate; densely punctured, without impressed line, but with a shallow, indistinct depression at base. Elytra narrow, sides parallel, striae wide, distinctly punctured, intervals convex and narrow, but little wider than striae. Beneath densely punctate. Length 1.5 mm.

*Hab.*—Kansas.

This species enjoys an unusual range of variation; there are but few specimens, and no two are like; the legs vary in color; the rostrum varies in length, and is sometimes distinctly dilated, and sometimes equal throughout; the head varies in width, and the eyes seem, in one instance, distinctly prominent; withal the species has a peculiar sordid appearance, and the specimens are remarkably equal in size, so that in connection with its somewhat depressed form it may be easily recognized.

#### SECTION V.

The species of this section agree in the narrowed thorax sinuate at base (Plate III, Fig. 16), and except for the first species in the robust depressed form. They are easily distinguished, though *rostrum nigrum* and *patrule* enjoy a very large range of variation, and extremes of each may, for an instant, create a doubt.

They are separated as follows:

Elytra regularly narrow ovate, front deeply excavate between the eyes, 2—2.25 mm.

**cavifrons.**

Elytra more robust, ovate, globose, or sub-equal.

Striae of elytra fine, shallow, punctures distant; distinctly pubescent, elytra nearly twice as long as wide, 2.5 mm. .... **confertum.**

Striae of elytra deeper, punctures more approximate, intervals moderately wide, flat.

Form robust, humeri large, sides of elytra sub-equal, not at all or very sparsely pubescent, 3—3.5 mm. .... **rostrum.**

Form moderate, humeri smaller, elytra more ovate, distinctly pubescent, 2—2.5 mm. .... **nigrum.**

Striae deep, intervals convex, punctures large and profound.

Humeri small, form moderate, intervals of elytra wider than striae, 1—5 mm.

**patruele.**

Humeri large, form broad, obese, striae as wide, or wider than intervals, 2 mm.

**porcatum.**

**A. cavifrons** Lec, Pac. R. R. Expl. and Surv. Ins. 53.—Black, basal joints of antennae yellow, very sparsely pubescent, form ovate. Head short, broad, punctured and rugose; front excavated between the eyes; rostrum short, stout and somewhat decreasing in thickness to near tip. Antennae long and slender; basal and second joints equal, and yellow. Thorax transverse, widest behind middle; base bisinuate, moderately punctate, with a distinct impressed line, foveate at base. Elytra regularly ovate, humeri indistinct; striae distinct, punctured; intervals wide, flat and finely punctured. Beneath rather sparsely punctured. Length 2—2.25 mm.

*Hab.*—W. T., Cal., Hudson Bay.

Rather widely distributed, but very few specimens received. The species is easily distinguished by the general form from all others in this section, agreeing almost entirely in that respect with the group *crassinasum* of section 4, and the thorax is less decidedly narrowed at base than in the others of this section. It is peculiar in having *two* joints of the antennae pale, and in the large deep excavation of front.

**A. confertum** n. sp.—Black, densely clothed with white pubescence; form robust, somewhat depressed. Head broad, short, coarsely punctured, longitudinally rugose; eyes large, prominent; antennae inserted close to base, short and stout; first and second joints sub-equal. Thorax transverse, densely and coarsely punctured, with a short foveate line at base. Elytra oblong, one-half longer than wide, humeri evident, distinct, sides equal; striae moderate, distinctly punctured; intervals wide, flat and finely scabrous. Beneath moderately punctate. Length 2—2.5 mm.

*Hab.*—Western and Southern States.

The dense pubescence and depressed elongate form distinguish this species.

**A. rostrum** Say, Jourq. Ac. v, 253, Curc. p. 6. *Sayi* Gyll. Sch. Curc. v, 252, Harris, Inj. Ins. p. 67.—Black, sparsely or not at all pubescent. Head transverse, rugose and punctured; eyes distinct, prominent, moderate in size; rostrum slightly



dilated near middle, a distinct deep puncture at upper side near point of dilation, and a more or less distinct sulcus from its head. Antennae moderate, basal joint twice as long as second, and with it forming two-fifths of entire member. Thorax depressed, above rugose and densely punctured: elytra very broad, but little longer than wide; humeri distinct and large, striae distinct, punctures evident, intervals wide, flat, with a row of punctures through middle. Beneath, sternum rather finely and sparsely, abdomen more densely and grossly punctured. Length 3—3.5 mm.

*Hab.*—U. S., except Pacific States.

This is a common and well-known species; easily known by its large size and depressed form.

Said by Harris to be found in seeds of *Baptisia tinctoria*.

**A. nigrum** Hbst. Kaefer vii, 122, pl. 103, f. 11; Germ. Mag. ii, 239; Gyll. Sch. Cure. vi, 254.—Black, usually distinctly pubescent. Head much as in the preceding except for the sculpture of rostrum. Antennae basal joint but little exceeding second, and combined with it not equalling one-third of the entire member. Thorax as in *rostrum*; elytra of the same general form, humeri smaller, proportionately rather longer; striae and intervals as in the preceding. Length 2—2.5 mm.

*Hab.*—U. S., except Pacific States.

This species varies considerably in size, density of pubescence, form of rostrum, which is sometimes dilated and sometimes not; form of elytra, which are sometimes more ovate, and size of head, which is occasionally less transverse; in general appearance very similar to the preceding; it is at once distinguished by its smaller size, more evident pubescence and more elongate form. This is probably the species mentioned by Harris (*Ins. Inj. to Veg. Flint's Ed.*, p. 67) as feeding in the seeds of Locust, and specimens in Dr. Horn's collection are marked "On Locust, Adirondacks."

**A. patrule** n. sp.—Black, not pubescent, form broadly ovate. Head transverse, scabrous and punctured: eyes somewhat prominent. Thorax densely and grossly punctured with a linear dorsal depression, becoming punctiform or foveate at base. Elytra ovate, striae and intervals as in the synopsis. Length 1.5 mm.

*Hab.*—U. S.

Easily distinguished by the characters mentioned in the synopsis, *porcatum*, with which it agrees in most structural details, being much more obese, and somewhat larger.

**A. porcatum** Boh. Sch. Cure. v, 374.—Black, not pubescent, form very robust, sub-depressed. Head broad, rather sparsely punctured; eyes but little prominent; antennae moderate, basal joint longest, second stoutest, together forming one-third in length of the antennae. Thorax rather sparsely punctured with a deep foveate line near base. Elytra comparatively very large, but little longer than wide, humeri large, distinct: striae deep, punctures evident, intervals narrow, convex, not wider than striae. Length 2 mm.

*Hab.*—Neb., Pa., N. Y.

Not common, and distinguished by the almost rounded elytra, and very obese appearance.

**PODAPION** Riley.

This genus contains only a single species, larger and more elongate in form than the species of *Apion*, at first sight recalling *Magdalis*, but with the family characters of the *Apioninae*; the figure (Plate III, Fig. 2) gives the superficial appearance.

The species is:

**P. gallicola** Riley, Bul. Bkln. Ent. Soc. 6, p. 37.—Black, antennae piceous, clothed with long white pubescence. Head broad, rugose, punctate and very slightly excavate between the eyes, which are large and prominent; rostrum rather long, slender, equal throughout, very abruptly joining the head; antennae inserted very close to base of rostrum; basal joint long, slender and rather abruptly clavate. Thorax cylindric, widest at middle, narrowest at apex, scabrous and very finely and densely punctate; no basal line or punctation; legs with the anterior femora strongly swollen. Elytra elongate, sides even, parallel: striae wide, with an apparently double row of irregular, but closely set punctures; intervals narrow. Beneath scabrous and finely punctate. Length 3—4.5 mm.

*Hab.*—D. C., Mich., Mass.

This species, Prof. Riley says, is a true gall maker on *Pinus inops*. The gall is spherical or ovoid, rarely elongate, and from one-quarter to three-quarters inch in length, smoother than the unaffected parts of the twig, but concolorous; the interior is hard, woody, usually containing an abundance of liquid resin. The imago appears in May or June, and probably oviposits in the one year old twigs; no twigs appear until the next season, when the larva and pupa of the insect may be found.

The following species I have not succeeded in positively identifying:

**A. nodirostre** Gerst. Stet. Ent. Zeit., 1854, 261.—Oblong, black, sub-aeneous, slightly pubescent; rostrum dilated near middle, above canaliculate, front tri-sulcate; antennae short at base, stout. Head grossly punctured; thorax sub-cylindric, narrowed anteriorly, finely punctured: as long as broad, sides equal; elytra black, aeneous, striate and punctured: interstices sub-convex and shining; humeri prominent, legs piceous. Length 1—1½ lines.

*Hab.*—Fla.

**A. vile** Gerst. loc. cit. 249.—Elongate, black, not pubescent, shining; rostrum elongate, slightly arquate, densely punctate at base; antennae inserted close to the eyes, base piceous. Head finely granulate, sulcate between eyes; eyes small, not prominent; thorax nearly as wide as long; sides parallel, slightly narrower at apex, base bisinuate; sparsely punctate, foveate at base; elytra elongate, ovate; at base one-half broader than thorax; sides parallel to terminal third; striae punctate, intervals convex, finely scabrous; legs black, thin: anterior tibia elongated. Length ¾ lines.

*Hab.*—Baltimore.

Evidently belongs to the second section, and must be allied to *atripes*.

**A. cuprascens** Mann. Bull. Mosc., 1843, 289.—Oblongum, fusco aeneum, griseo pubescens, rostro longitudine thoracis cum capite, arcuato, thorace anterieus angustato, profunde punctato, postice canaliculato; elytris oblongo ovatis, punctato sulcatis, punctis in sulcis satis approximatis. Longit. cum rostro  $1\frac{1}{2}$  lines Latit.  $\frac{1}{2}$  lin.

*Hab.*—In insula Sitkha.

I have seen no species to which this description applied.

**A. reconditum** Gyll. Sch. Cure. v, 432.—Oblongo ovatum, nigro aeneum, subnitidum glabrum; thorace sub-conico, obsolete punctato, non-caliculato; elytris amplis, remote punctato sulcatis; interstitiis planis, sublaevibus; rostro tenui arcuato.

Rostrum longius magis tenue, arcuato-caput breve, latum, atrum, fronte impressa punctulata, vertice elevato sublaevi; oculi semi-globosi, nigri; rostrum longitudine capite cum thoracis tenue, cylindricum, atrum nitidum. Antennae mediocres, nigrae. Thorax latitudine baseos fere longior, anterieus angustior, sub-conicus, apice truncatus lateribus obliquus vix ampliatus; basi leviter bisinuatus, supra modice convexus, obsolete punctatus, postice non canaliculatus nigro aeneus, subnitidus; scutellum tuberculiforme, atrum. Elytra ampla, antice thoracis basi fere duplo latiore, humeris rotundatis, callosa elevato instructis; lateribus pone medium adhuc nonnihil latioribus, apice conjunctim rotundato, thorace triplo longiora, supra convexa sat profunde sulcata, sulcis remote punctatis, interstitiis planis, sublaevibus, nigro aenea, nitida glabra. Corpus subtus confertim punctatis, atrum, parum nitidum. Pedes longiusculi, validi, atri, tarsis cinereo pubescentibus. Longit ?

*Hab* —Pa.

## LIST OF SPECIES.

### APION Herbst.

- |  |                                      |
|--|--------------------------------------|
| 1. <b>A. erraticum</b> Smith, n. sp.         | Ia., Tex.                            |
| 2. <b>A. obsoletum</b> Smith, n. sp.         | Can., Mich., Dac.                    |
| 3. <b>A. erythrocerum</b> Smith, n. sp.      | D. C., Tenn., Miss., Kans.           |
| 4. <b>A. robustum</b> Smith, n. sp.          | Mo., Ia., Tex.                       |
| 5. <b>A. protensum</b> Lec.                  | Cal.                                 |
| 6. <b>A. nasum</b> Smith, n. sp.             | Wy., Dac., Cal.                      |
| 7. <b>A. parallelum</b> Smith, n. sp.        | D. C., Tenn.                         |
| 8. <b>A. estriatum</b> Smith, n. sp.         | Can., Col., Tex.                     |
| 9. <b>A. ovale</b> Smith, n. sp.             | Mo., Cal.                            |
| 10. <b>A. impunctistriatum</b> Smith, n. sp. | D. C., Tex.                          |
| 11. <b>A. desolatum</b> Smith, n. sp.        | Ga.                                  |
| 12. <b>A. sordidum</b> Smith, n. sp.         | W. T.                                |
| 13. <b>A. floridanum</b> Smith, n. sp.       | D. C., Fla., Ia., Col., Ariz.        |
| 14. <b>A. obesum</b> Smith, n. sp.           | Mich., Tex.                          |
| 15. <b>A. parvulum</b> Smith, n. sp.         | M. States.                           |
| 16. <b>A. atripes</b> Smith, n. sp.          | Ga., Fla., Cal.                      |
| 17. <b>A. cribricolle</b> Lec.               | Fla., Cal., Tex., Neb., Ariz., N. S. |
| <i>A. porosicolle</i> Germ.                  |                                      |
| 18. <b>A. melanarium</b> Gerst.              | Tex., Ariz., Vanc.                   |

19. *A. minutum* Smith, n. sp. N. Y., Fla.  
 20. *A. pennsylvanicum* Boh. Cal., Ariz.  
 21. *A. opacicolle* Smith, n. sp. Ariz., Cal., Or.  
 22. *A. oedorrhynchum* Lec. Ariz., Cal.  
 23. *A. texanum* Smith, n. sp. Tex.  
 24. *A. ellipticum* Smith, n. sp. La., Neb.
25. *A. californicum* Smith, n. sp. Cal.  
 26. *A. decoloratum* Smith, n. sp. Md., Va., D. C., N. C., Ariz.  
 27. *A. concoloratum* Smith, n. sp. W. Va., Ga., Fla., Mich., Cal.  
 28. *A. carinatum* Smith, n. sp. Fla., Tex.  
 29. *A. brevicolle* Smith, n. sp. Cal., Ariz., Tex.  
 30. *A. typicum* Smith, n. sp. Cal.  
 31. *A. abdominale* Smith, n. sp. D. C., Ill., Ariz.  
 32. *A. antennatum* Smith, n. sp. Cal., Ariz.  
 33. *A. cordatum* Smith, n. sp. Cal.  
 34. *A. capitatum* Smith, n. sp. Mich., Neb., Or.  
 35. *A. oblitum* Smith, n. sp. Fla., Tex., Kans., Col., Cal.
36. *A. ventricosum* Lec. Mass., Tex., Ariz., Cal.  
 37. *A. subglobosum* Gerst. Fla.  
 38. *A. turbulentum* Smith, n. sp. Pa., N. Y., N. J., D. C., Tex., Cal.  
 39. *A. minor* Smith, n. sp. La., Cal.
40. *A. dilatatum* Smith, n. sp. Ariz.  
 41. *A. herculanum* Smith, n. sp. Mass., Penn., N. Y., D. C.  
 42. *A. pyriforme* Smith, n. sp. Ariz.
43. *A. walshii* Smith, n. sp. Mass., N. Y., Mich., Ill., Can., Col., Ariz., Cal.  
*lanuginosum* Walsh.  
 44. *A. vicinum* Smith, n. sp. N. Y., D. C., Col., Cal.  
 45. *A. crassinasum* Lec. D. C., Tenn., Or., Cal.  
 46. *A. proclive* Lec. Ga., Col., Cal.  
 47. *A. modestum* Smith, n. sp. Fla., Kans., Ariz.  
 48. *A. perminutum* Smith, n. sp. Mass., D. C., Ga., Tex.
49. *A. segnipēs* Say. D. C., Ga., Fla., Mo., Mont., Tex., Ariz.  
*cinereum* Gerst.  
 50. *A. griseum* Smith, n. sp. N. J., D. C., Fla., Kans., Ariz., Dac., Col., Tex.  
 51. *A. fraternum* Smith, n. sp. D. C., Ga., La., Tex., Ill., Mo., Kans., Cal.
52. *A. varicorne* Smith, n. sp. Fla., Ga., Tex., Col., Ariz., Dac., Cal.  
 53. *A. troglodytes* Mann. S. C., Fla., La., Mo., Tex., Ariz., Cal.  
*metallicum* Gerst.  
 54. *A. extensum* Smith, n. sp. Mont., Kans.  
 55. *A. aeneipenne* Smith, n. sp. D. C.  
 56. *A. contusum* Smith, n. sp. Dac.  
 57. *A. tenuirostrum* Smith, n. sp. D. C., Kans., Neb., Tex.  
 58. *A. attenuatum* Smith, n. sp. Kans.

|||||

59. **A. cavifrons** Lec. W. T., Cal., H. B.  
 60. **A. confertum** Smith, n. sp. Ga., Mich., Kans., Cal., Col., W. T., U. T.  
 61. **A. rostrum** Say. Pa., N. Y., D. C., Md., Ga., Mo., Mont., Tex.  
     *Sayi* Sch.  
 62. **A. nigrum** Hbst. Pa., N. Y., Md., D. C., H. B., Kans., Col.  
 63. **A. patruale** Smith, n. sp. N. Y., Fla., Mich., Ill., Col.  
 64. **A. porcatum** Boh. Pa., N. Y., Neb.

**PODAPION** Riley.

65. **A. gallicola** Riley, Bull. Brook. Ent. Soc., vol. vi, p. 37. D. C., Fla., H. B., Ark.

*Undetermined species.*

66. **A. cuprascens** Mann. Sitkha.  
 67. **A. nodirostre** Gerst. Florida.  
 68. **A. reconditum** Gyll. Pa.  
 69. **A. vile** Gerst. Baltimore.

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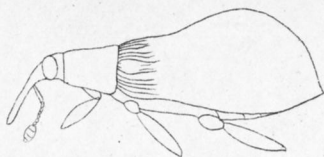
EXPLANATION OF PLATE III.

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- 1.—*Apion* general form of ||| one and two.
- 2.—*Podapion gallicola* Riley.
- 3.—*Apion herculanum* side view of group *pyriforme*.
- 4.—Side view of group *crassinasum*.
- 5.—Tarsus of *Podapion*.
- 6.—Tarsus of *Apion*.
- 7.—Eyes not all prominent, head elongate, rostrum slender, slightly dilated toward tip.
- 8.—Head transverse, eyes moderately prominent, rostrum dilated near base and tapering to tip.
- 9.—Group *ventricosum* (*subglobosum*).
- 10.—*A. atripes*.
- 11.—*A. patruale*.
- 12.—Group *seguipes*.
- 13.—Group *crassinasum* (*Walshii*).
- 14.—*A. proclive*.
- 15.—*A. parallelum*.
- 16.—*A. rostrum*.
- 17.—Group *troglydites*.
- 18.—Group *pyriforme* (*dilatatum*).
- 19.—Femur slender.
- 20.—Femur strongly clavate, tuberculate at inner side.
- 21.—Femur clavate.
- 22.—Claw of tarsus toothed.
- 23.—Claw of tarsus simple.
- 24.—Antenna normal.
- 25.—Antenna with second joint subglobose.



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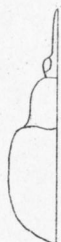
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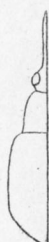
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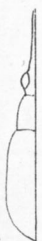
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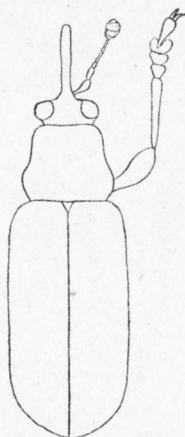
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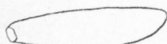
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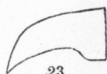
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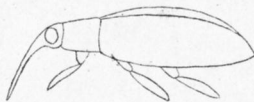


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